

ABSTRAK

Skripsi dengan Judul “Kemampuan Representasi Matematis Siswa dengan Model *Digital Project Based Learning* dalam Memecahkan Masalah Matematika di MTs Darul Falah Sumbergempol Tulungagung” ini ditulis oleh Rischa Gita Suhaini, NIM.126204201017, Program Studi Tadris Matematika, Fakultas Tarbiyah dan Ilmu Keguruan, UIN Sayyid Ali Rahmatullah Tulungagung, Pembimbing: Dr. Sutopo M.Pd.

Kata Kunci: *Representasi Matematis, Digital Project Based Learning, Masalah Matematika*

Representasi matematis merupakan hal yang penting dalam pembelajaran matematika. Kemampuan representasi matematis siswa masih tergolong rendah dimana sebagian siswa masih kesulitan dalam mengubah masalah matematika kedalam bentuk simbol karena pembelajaran matematika di kelas masih belum melibatkan siswa secara aktif. Untuk mengasah berbagai representasi siswa yang rendah, dipilih model pembelajaran *digital project based learning* yang memiliki banyak kelebihan. Salah satunya ialah pembelajaran yang berpusat pada siswa (*student-centered*).

Tujuan penelitian ini adalah (1) untuk mendeskripsikan kemampuan representasi matematis siswa kemampuan matematika rendah dalam menyelesaikan masalah matematika dengan model *digital project based learning*, (2) untuk mendeskripsikan kemampuan representasi matematis siswa kemampuan matematika sedang dalam menyelesaikan masalah matematika dengan model *digital project based learning*, (3) untuk mendeskripsikan kemampuan representasi matematis siswa kemampuan matematika tinggi dalam menyelesaikan masalah matematika dengan model *digital project based learning*.

Penelitian ini menggunakan pendekatan kualitatif dengan jenis penelitian studi kasus. Subjek penelitian terdiri dari 31 siswa kelas VIII B MTs Darul Falah Sumbergempol Tulungagung yang mana akan diambil 2 siswa dengan kategori kemampuan matematika rendah, 2 siswa dengan kemampuan matematika sedang dan 2 siswa dengan kemampuan matematika tinggi. Teknik pengumpulan data pada penelitian ini menggunakan tes kemampuan representasi matematis dan wawancara. Teknik analisis data yang digunakan yaitu reduksi data, penyajian data dan penarikan kesimpulan.

Hasil penelitian ini menunjukkan bahwa (1) kemampuan representasi matematis siswa kemampuan matematika rendah dengan model *digital project based learning* cenderung menggunakan representasi kata atau teks tertulis dalam menyelesaikan masalah matematika dan cenderung tidak yakin dengan hasil pekerjaannya, (2) kemampuan representasi matematis siswa kemampuan matematika sedang dengan model *digital project based learning* cenderung menggunakan representasi persamaan atau ekspresi matematis dan representasi kata atau teks tertulis dalam menyelesaikan masalah matematika dan cenderung kurang yakin dengan hasil pekerjaannya, (3) kemampuan representasi matematis siswa kemampuan matematika tinggi dengan model *digital project based learning* menggunakan semua kemampuan representasi yaitu representasi persamaan atau ekspresi matematis, representasi kata atau teks tertulis dan representasi visual (tabel atau grafik) dalam menyelesaikan masalah matematika dan cenderung yakin dengan hasil pekerjaannya.

ABSTRACT

Thesis with the title "Students' Mathematical Representation Ability with Models *Digital Project Based Learning* in Solving Mathematical Problems at MTs Darul Falah Sumbergempol Tulungagung" was written by Rischa Gita Suhaini, NIM.126204201017, Mathematics Tadris Study Program, Faculty of Tarbiyah and Teacher Training, UIN Sayyid Ali Rahmatullah Tulungagung, Supervisor: Dr. Sutopo M.Pd.

Keywords: *Mathematical Representation, Digital Project Based Learning, Mathematical Problems*

Mathematical representation is important in learning mathematics. Students' mathematical representation abilities are still relatively low, where some students still have difficulty converting mathematical problems into symbolic form because mathematics learning in class still does not involve students actively. To sharpen various low student representations, a learning model was chosen *digital project based learning* which has many advantages. One of them is student-centered learning (*student-centered*).

The aim of this research is (1) to describe the mathematical representation abilities of students with low mathematical abilities in solving mathematical problems using models *digital project based learning*, (2) to describe students' mathematical representation abilities with moderate mathematical abilities in solving mathematical problems using models *digital project based learning*, (3) to describe the mathematical representation abilities of students with high mathematical abilities in solving mathematical problems with models *digital project based learning*.

This research uses a qualitative approach with a case study type of research. The research subjects consisted of 31 class VIII B students at MTs Darul Falah Sumbergempol Tulungagung, of which 2 students with low mathematical ability, 2 students with medium mathematical ability and 2 students with high mathematical ability would be taken. Data collection techniques in this research used mathematical representation ability tests and interviews. The data analysis techniques used are data reduction, data presentation and drawing conclusions.

The results of this research show that (1) students' mathematical representation ability is low with models *digital project based learning* tend to use word representations or written text in solving mathematical problems and tend to be unsure about the results of their work, (2) students' mathematical representation abilities with moderate mathematical abilities with models *digital project based learning* tend to use representations of equations or mathematical expressions and representations of words or written text in solving mathematical problems and tend to be less confident about the results of their work, (3) students' mathematical representation abilities have high mathematical abilities with models *digital project based learning* uses all representation abilities, namely representation of mathematical equations or expressions, representation of words or written text and visual representation (tables or graphs) in solving mathematical problems and tends to be confident in the results of his work.

